



## Complete Summary

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### **GUIDELINE TITLE**

Staging laparoscopy for primary hepatic tumors. In: Diagnostic laparoscopy guidelines.

### **BIBLIOGRAPHIC SOURCE(S)**

Staging laparoscopy for primary hepatic tumors. In: Society of American Gastrointestinal and Endoscopic Surgeons (SAGES). Diagnostic laparoscopy guidelines. Los Angeles (CA): Society of American Gastrointestinal and Endoscopic Surgeons (SAGES); 2007 Nov. p. 47-50.

### **GUIDELINE STATUS**

This is the current release of the guideline.

This guideline updates a previous version: Society of American Gastrointestinal and Endoscopic Surgeons (SAGES). SAGES guidelines for diagnostic laparoscopy. Los Angeles (CA): Society of American Gastrointestinal and Endoscopic Surgeons (SAGES); 2002 Mar. 5 p.

## **COMPLETE SUMMARY CONTENT**

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## **SCOPE**

### **DISEASE/CONDITION(S)**

Hepatocellular carcinoma (primary hepatic tumors)

### **GUIDELINE CATEGORY**

Diagnosis  
Evaluation

## **CLINICAL SPECIALTY**

Gastroenterology  
Oncology  
Radiology  
Surgery

## **INTENDED USERS**

Physicians

## **GUIDELINE OBJECTIVE(S)**

- To assist surgeons' decisions about the appropriate use of staging laparoscopy in patients with hepatocellular carcinoma
- To update the previous 2002 guidelines on this topic

## **TARGET POPULATION**

Patients with primary hepatic tumors who are candidates for curative resection based on preoperative identification of size and location of disease with adequate hepatic reserve

## **INTERVENTIONS AND PRACTICES CONSIDERED**

Staging laparoscopy in patients with hepatocellular carcinoma

## **MAJOR OUTCOMES CONSIDERED**

- Procedure-related/intraoperative complications
- Procedure-related morbidity
- Adverse oncologic effects
- Postoperative hospital length of stay
- Cost-effectiveness
- Mortality

## **METHODOLOGY**

### **METHODS USED TO COLLECT/SELECT EVIDENCE**

Hand-searches of Published Literature (Primary Sources)  
Searches of Electronic Databases

### **DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE**

A systematic literature search of MEDLINE for the period 1995-2005 was limited to English language articles. The search strategy is shown in Figure 1 in the

original guideline document. Using the same strategy, the Cochrane database of evidence-based reviews and the Database of Abstracts of Reviews of Effects (DARE) were searched.

Abstracts were reviewed by three committee members and into the following categories:

- Randomized studies, meta-analyses, and systematic reviews
- Prospective studies
- Retrospective studies
- Case reports
- Review articles

Randomized controlled trials, meta-analyses, and systematic reviews were selected for further review along with prospective and retrospective studies that included at least 50 patients; studies with smaller samples were reviewed when other available evidence was lacking. The most recent reviews were also included. All case reports, old reviews, and smaller studies were excluded.

The reviewers graded the level of evidence of each article and manually searched the bibliographies for additional articles that may have been missed by the search. Any additional relevant articles were included in the review and grading.

## **NUMBER OF SOURCE DOCUMENTS**

Not stated

## **METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE**

Weighting According to a Rating Scheme (Scheme Given)

## **RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE**

### **Levels of Evidence**

Level I	Evidence from properly conducted randomized, controlled trials
Level II	Evidence from controlled trials without randomization  Or  Cohort or case-control studies  Or  Multiple time series, dramatic uncontrolled experiments
Level III	Descriptive case series, opinions of expert panels

## **METHODS USED TO ANALYZE THE EVIDENCE**

## Systematic Review

### DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

To maximize the efficiency of the review, articles were divided into three subject categories:

- Staging laparoscopy for cancer
- Diagnostic laparoscopy for acute conditions
- Diagnostic laparoscopy for chronic conditions

Reviewers graded the level of each article (see "Rating Scheme for the Strength of the Evidence.")

### METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

### DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The guidelines were developed under the auspices of the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) and revised by the SAGES Guidelines Committee.

The statements included in this guideline are the product of a systematic review of published work on the topic, and the recommendations are explicitly linked to the supporting evidence. The strengths and weaknesses of the available evidence are described and expert opinion sought where the evidence is lacking. This is an update of previous guidelines on this topic (last revision 2002) as new information has accumulated.

### RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

#### Scale Used for Recommendation Grading

Grade A	Based on high-level (level I or II), well-performed studies with uniform interpretation and conclusions by the expert panel
Grade B	Based on high-level, well-performed studies with varying interpretation and conclusions by the expert panel
Grade C	Based on lower-level evidence (level II or less) with inconsistent findings and/or varying interpretations or conclusions by the expert panel

### COST ANALYSIS

A 60% drop in hospital charges for patients undergoing staging laparoscopy compared with open laparotomy has been described.

### METHOD OF GUIDELINE VALIDATION

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The recommendations of each guideline undergo multidisciplinary review and are considered valid at the time of production based on the data available. This statement was reviewed by the Board of Governors of the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES), November 2007.

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

Definitions of the levels of evidence (**I, II, III**) and the grades of the recommendations (**A, B, C**) are provided at the end of the "Major Recommendations" field.

#### General Recommendations for Diagnostic Laparoscopy

Diagnostic laparoscopy is a safe and well tolerated procedure that can be performed in an inpatient or outpatient setting under general or occasionally local anesthesia with intravenous sedation in carefully selected patients. Diagnostic laparoscopy should be performed by physicians trained in laparoscopic techniques who can recognize and treat common complications and can perform additional therapeutic procedures when indicated. During the procedure, the patient should be continuously monitored, and resuscitation capability must be immediately available. Laparoscopy must be performed using sterile technique along with meticulous disinfection of the laparoscopic equipment. Overnight observation may be appropriate in some outpatients.

#### Staging Laparoscopy (SL) for Hepatocellular Carcinoma

##### Technique

The patient is placed in the supine position, and pneumoperitoneum is established. A 30-degree laparoscope through an umbilical port is recommended for optimal visualization of the entire liver. Additional ports can be placed in the right anterior axillary line and epigastric area as needed. A standard laparoscopic ultrasound probe is used to systematically examine the entire liver identifying all lesions suspected to be malignant. Ultrasound-guided core biopsy should be used for suspicious lesions that are unresectable or preclude curative resection. Biopsy of resectable lesions need not be performed.

##### Indications

Patients with primary hepatic tumors who are candidates for curative resection based on preoperative identification of size and location of disease with adequate hepatic reserve.

##### Recommendations

SL with laparoscopic ultrasound can be performed safely in patients with primary hepatic tumors (**Grade B**). Patients with primary hepatic cancers that appear resectable on preoperative imaging may benefit from SL with laparoscopic ultrasound to evaluate extent, location, and size of disease (**Grade C**). Selection criteria that may increase the yield and cost-effectiveness of the procedure are not currently available.

For details of the rationale for the procedure and its diagnostic accuracy, see the original guideline document.

#### **Definitions:**

#### **Levels of Evidence**

Level I	Evidence from properly conducted randomized, controlled trials
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Level III	Descriptive case series, opinions of expert panels

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Grade C	Based on lower-level evidence (level II or less) with inconsistent findings and/or varying interpretations or conclusions by the expert panel

#### **CLINICAL ALGORITHM(S)**

None provided

### **EVIDENCE SUPPORTING THE RECOMMENDATIONS**

#### **TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS**

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

## **BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS**

### **POTENTIAL BENEFITS**

The appropriate identification of patients who have unresectable disease by staging laparoscopy with laparoscopic ultrasound will potentially spare these patients a non therapeutic laparotomy with its associated morbidity and may alter treatment plans. Additional benefits include decreased patient morbidity, hospital stay and costs, and earlier time to adjuvant treatment.

### **POTENTIAL HARMS**

- Procedure- or anesthesia-related complications (see "Procedure-related Complications and Patient Outcomes" section in the original guideline document)
- Unnecessary patient morbidity in cases of a low yield procedure
- Potential adverse oncologic effects of the procedure
- False negative examinations that lead to unnecessary laparotomy

## **CONTRAINDICATIONS**

### **CONTRAINDICATIONS**

Patients with known unresectable hepatic disease such as major vessel or organ invasion are not candidates for surgery. In addition, dense intra-abdominal adhesions, particularly surrounding the liver, from prior surgery may be considered a relative contraindication to SL and laparoscopic ultrasound.

## **QUALIFYING STATEMENTS**

### **QUALIFYING STATEMENTS**

Clinical practice guidelines are intended to indicate the best available approach to medical conditions as established by systematic review of available data and expert opinion. The approach suggested may not be the only acceptable approach given the complexity of the health care environment. These guidelines are intended to be flexible, as the surgeon must always choose the approach best suited to the patient and variables in existence at the time of the decision.

### **Limitations of the Available Literature**

The quality and amount of the available literature for staging laparoscopy (SL) in primary hepatic tumors is limited, and no level I evidence exists. The designs of these studies differ. Some compare SL with laparoscopic ultrasound to preoperative imaging while others compare it to exploratory laparotomy. There is also inconsistency in the type of preoperative imaging and the specific computed tomography scan techniques used. In addition, the impact of each surgeon's expertise in laparoscopic ultrasound on the diagnostic accuracy of the procedure remains unknown. These limitations make firm recommendations difficult.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

### IMPLEMENTATION TOOLS

Foreign Language Translations  
Patient Resources

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Getting Better  
Living with Illness

### IOM DOMAIN

Effectiveness  
Patient-centeredness  
Safety

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

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### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

1998 Apr (revised 2007 Nov)

### GUIDELINE DEVELOPER(S)

Society of American Gastrointestinal and Endoscopic Surgeons - Medical Specialty Society



**SOURCE(S) OF FUNDING**

Society of American Gastrointestinal and Endoscopic Surgeons (SAGES)

**GUIDELINE COMMITTEE**

Guidelines Committee

**COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE**

Not stated

**FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST**

Members of the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) disclose potential conflicts of interest and pertinent financial relationships prior to serving as faculty for SAGES-sponsored educational events, delivering presentations at scientific meetings, etc. Additionally, members of SAGES Committees disclose their potential conflicts of interest and pertinent financial relationships annually as a condition of committee membership.

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**GUIDELINE AVAILABILITY**

Electronic copies: Available from the [Society of American Gastrointestinal and Endoscopic Surgeons \(SAGES\) Web site](#).

Print copies: Available from the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES), 11300 W. Olympic Blvd., Suite 600, Los Angeles, CA 90064; Web site: [www.sages.org](http://www.sages.org).

**AVAILABILITY OF COMPANION DOCUMENTS**

None available

**PATIENT RESOURCES**

The following is available:

- Patient information for diagnostic laparoscopy from SAGES. Available in English and Polish from the [Society of American Gastrointestinal and Endoscopic Surgeons \(SAGES\) Web site](#).

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

## **NGC STATUS**

This summary was completed by ECRI on November 19, 1999. The information was verified by the guideline developer on February 15, 2000. This summary was updated by ECRI on March 22, 2004. The information was verified by the guideline developer on April 27, 2004. This summary was updated by ECRI Institute on February 27, 2009. The updated information was verified by the guideline developer on March 9, 2009.

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Date Modified: 4/13/2009

